What is claimed is:

1. A method for augmented reality guided instrument positioning, comprising the steps of:

determining at least one graphics proximity marker for indicating a proximity of a predetermined portion of an instrument to a target; and

rendering the at least one graphics proximity marker such that the proximity of the predetermined portion of the instrument to the target is ascertainable based on a position of a marker on the instrument with respect to the at least one graphics proximity marker.

2. The method according to claim 1, wherein said determining step comprises the steps of:

determining an optimal location for the predetermined portion of the instrument with respect to the target; and

calculating the proximity of the predetermined portion of the instrument to the target based on the optimal location.

3. The method according to claim 1, wherein the proximity comprises a range of proximity, and said determining step comprises the steps of:

determining an optimal range of locations for the predetermined portion of the instrument with respect to the target; and

calculating the range of proximity of the predetermined portion of the instrument to the target based on the optimal range.

4. The method according to claim 1, wherein the proximity corresponds to a final forward position of the predetermined portion of the instrument with respect to the target.

5. The method according to claim 1, wherein the proximity comprises a first measure of proximity for indicating an outer surface of a target volume and a second measure of proximity for indicating an inner portion of the target volume.

6. The method according to claim 1, wherein the proximity comprises a first measure of proximity for indicating a front portion of a target volume and a second measure of proximity for indicating a back portion of the target volume, the front portion

corresponding to entering the target volume and the back portion corresponding to exiting the target volume.

7. The method according to claim 1, further comprising the steps of:

determining at least one graphics path marker for identifying at least one path for the instrument to the target; and

rendering the at least one graphics path marker such that the at least one path is identified by the at least one graphics path marker.

8. An apparatus for augmented reality guided instrument positioning, comprising:

a graphics proximity marker generator for generating at least one graphics proximity marker that indicates a proximity of a predetermined portion of an instrument to a target; and

a rendering device for rendering the at least one graphics proximity marker such that the proximity of the predetermined portion of the instrument to the target is ascertainable based on a position of a marker on the instrument with respect to the at least one graphics proximity marker.

9. The apparatus according to claim 8, wherein said graphics proximity marker generator determines an optimal location for the predetermined portion of the instrument with respect to the target, and calculates the proximity of the predetermined portion of the instrument to the target based on the optimal location.

10. The apparatus according to claim 8, wherein the proximity comprises a range of proximity, and said graphics proximity marker generator determines an optimal range of locations for the predetermined portion of the instrument with respect to the target, and calculates the range of proximity of the predetermined portion of the instrument to the target based on the optimal range.

11. The apparatus according to claim 8, wherein the proximity corresponds to a final forward position of the predetermined portion of the instrument with respect to the target.

12. The apparatus according to claim 8, wherein the proximity comprises a first measure of proximity for indicating an outer surface of a target volume and a second measure of proximity for indicating an inner portion of the target volume.

13. The apparatus according to claim 8, wherein the proximity comprises a first measure of proximity for indicating a front portion of a target volume and a second measure of proximity for indicating a back portion of the target volume, the front portion corresponding to entering the target volume and the back portion corresponding to exiting the target volume.

14. The apparatus according to claim 8, further comprising:

a graphic path marker generator for determining at least one graphics path marker that identifies at least one path for the instrument to the target,

wherein said rendering device renders the at least one graphics path marker such that the at least one path is identified by the at least one graphics path marker.

ADD A1 ADD C1